

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) ^{Computer implemented} A method of managing electronic mail, the method comprising the steps of:

automatically generating a set of criteria based on contents of a plurality of electronic mail messages received over a network;

wherein the step of automatically generating a set of criteria includes;

automatically determining what particular content to use to classify electronic mail messages by performing steps that include determining that a threshold number of said plurality of electronic mail messages have a particular content;

in response to determining that a threshold number of said plurality of electronic mail messages have said particular content, generating criteria that classifies electronic mail messages that have said particular content as a first type of electronic mail;

receiving an electronic mail message over said network;

determining whether said electronic mail message satisfies said set of criteria;

if said electronic mail message satisfies said set of criteria, then processing said electronic mail message as said first type of electronic mail; ~~and~~

if said electronic mail message does not satisfy said set of criteria, then processing said electronic mail message as a second type of electronic mail;

wherein said first type of electronic mail is processed differently than said second type of electronic mail; and

21 wherein at least one message of said plurality of electronic mail messages has not been
 22 classified, before determining that a threshold number of said plurality of
 23 electronic mail messages have a particular content, as belonging to said first type.

1 2. (Original) The method of Claim 1 wherein:
 2 the method further comprises the step of generating a message signature for said
 3 electronic mail message based on contents of said electronic mail message; and
 4 the step of determining whether said electronic mail message satisfies said set of criteria
 e | includes determining whether said message signature satisfies said set of criteria.

1 3. (Previously Presented) The method of Claim 1, wherein determining that a threshold
 2 number of said plurality of electronic mail messages have a particular content includes
 3 determining that at least a portion of each of said plurality of electronic mail messages
 4 have said particular content.

1 4. (Currently Amended) The method of Claim 1 wherein the step of generating a set of
 2 criteria based on contents of a plurality of electronic mail messages received over said
 3 network includes tracking how many message signature elements of said plurality of
 4 electronic mail messages match.

1 5. (Currently Amended) The method of Claim 1 wherein the step of generating a set of
 2 criteria based on contents of a plurality of electronic mail messages received over said
 3 network includes the steps of:

4 generating message signatures for each electronic mail message of said plurality of
 5 electronic mail messages, wherein each message signature includes one or more
 6 message signature elements; and
 7 counting how many of said one or more message signature elements match message
 8 signature elements from other message signatures.

1 6. (Currently Amended) The method of Claim 5 wherein the step of determining whether
 2 said electronic mail message satisfies said set of criteria includes determining whether a
 3 message signature generated for said electronic mail message includes at least one
 4 message signature element that matches a threshold number of message signature
 5 elements of previously generated message signatures.

1 7. (Currently Amended) The method of Claim 6 wherein the step of determining whether a
 2 message signature generated for said electronic mail message includes at least one
 3 message signature element that matches a threshold number of message signature
 4 elements; further includes determining whether a message signature generated for said
 5 electronic mail message includes at least one message signature element that matches a
 6 threshold number of message signature elements of previously generated message
 7 signatures that are associated with a period of time.

1 8. (Original) The method of Claim 1 wherein the step of processing said electronic mail
 2 message as a first type of electronic mail includes adding a bulk electronic mail flag to
 3 said electronic mail message.

9. (Original) The method of Claim 8, further including the steps of:
 after processing said electronic mail message as a first type of electronic mail,
 transmitting said electronic mail message to an electronic mail server;
 said electronic mail server receiving said electronic mail message;
 said electronic mail server determining whether said electronic mail message contains
 said bulk electronic mail flag; and
 if said electronic mail message contains said bulk electronic mail flag, then processing
 said electronic mail message without further verifying whether said electronic
 mail message is bulk electronic mail.

10. (Currently Amended) ^{computer implemented} A method of managing electronic mail, the method comprising the
 steps of:
 a central server receiving from an electronic mail server a message signature generated
 from an electronic mail message;
^{the} an electronic mail server determining whether said message signature satisfies a set of
 criteria based on message signatures previously received by said central server
 from a set of electronic mail servers;
 wherein said set of criteria classifies said electronic mail message (and a threshold number
 of electronic mail messages as having a particular content;)
 if said received ~~data~~ message signature satisfies a set of criteria, then said electronic mail
 server processing said electronic mail message as a bulk electronic mail message;
and
wherein the step of said electronic mail server determining whether said message
signature satisfies a set of criteria includes determining whether a portion of said

message signature matches a portion of each of a threshold number of message
signatures previously received by said central server from said set of electronic
mail servers.

11. (Canceled)

12. (Currently Amended) The method of Claim ~~11~~10, wherein:
the step of a central server receiving from an electronic mail server a message signature
includes receiving a set of one or more values generated by a one-way hash
function; and
the step of said electronic mail server determining whether a portion of said message
signature matches includes determining whether at least one of said set of one or
more values matches a threshold number of previously received values generated
by a one-way hash function.

13. (Original) The method of Claim 12, the method further including the step of transmitting
one or more messages to said electronic mail server specifying changes to one or more
routines invoked by said electronic mail server to generate message signatures.

14. (Original) The method of Claim 13, wherein the step of transmitting one or more
messages includes transmitting platform-independent byte code.

computer implemented
15. (Currently Amended) A method of managing electronic mail transmitted over a network,
the method comprising the steps of:

3 a central server receiving from a set of electronic mail servers message signatures
4 generated from electronic mail messages received by said set of electronic mail
5 servers, wherein each message signature^{of said} includes one or more message signature
6 elements; ^{one of said}

7 said central server generating counts of how many times said one or more message
8 signature elements are matched by message signature elements from message
9 signatures generated for other electronic mail messages; and

10 said central server transmitting a message reflecting said counts.

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1 16. (Currently Amended) The method of Claim 15, wherein:

2 the step of a central server receiving includes receiving a particular recipient signature

3 associated with a particular message signature; and

4 the step of generating counts includes generating counts of how many times said one or

5 more message signature elements match message signature elements that are:

6 generated for other electronic mail messages, and

7 associated with a recipient signature that differs from said particular recipient

8 signature.

1 17. (Original) The method of Claim 16, wherein the step of transmitting messages reflecting

2 said counts includes transmitting said counts.

1 18. (Currently Amended) The method of Claim 16, wherein the step of transmitting messages

2 reflecting said counts includes transmitting message signature elements associated with

3 counts greater than a threshold.

1 ✓ 19 - 25. (Canceled)

1 26. (Currently Amended) A computer-readable medium carrying one or more sequences of
 2 one or more instructions for managing electronic mail, wherein the execution of the one
 3 or more sequences of the one or more instructions causes the one or more processors to
 4 perform the steps of:
 5 automatically generating a set of criteria based on contents of a plurality of electronic
 6 *el* mail messages received over a network;
 7 wherein the step of automatically generating a set of criteria includes;
 8 automatically determining what particular content to use to classify electronic
 9 mail messages by performing steps that include determining that a threshold
 10 number of said plurality of electronic mail messages have a particular content;
 11 in response to determining that a threshold number of said plurality of electronic mail
 12 messages have a particular content, generating criteria that classifies electronic
 13 mail messages that have said particular content as a first type of electronic mail;
 14 receiving an electronic mail message over said network;
 15 determining whether said electronic mail message satisfies said set of criteria;
 16 if said electronic mail message satisfies said set of criteria, then processing said electronic
 17 mail message as said first type of electronic mail; ~~and~~
 18 if said electronic mail message does not satisfy said set of criteria, then processing said
 19 electronic mail message as a second type of electronic mail;
 20 wherein said first type of electronic mail is processed differently than said second type of
 21 electronic mail; and

wherein at least one message of said plurality of electronic mail messages has not been classified, before determining that a threshold number of said plurality of electronic mail messages have said particular content, as belonging to said first type.

27. (Original) The computer-readable medium of Claim 26 wherein:
the computer-readable medium further comprises sequences of instructions for performing the step of generating a message signature for said electronic mail message based on contents of said electronic mail message; and
the step of determining whether said electronic mail message satisfies said set of criteria includes determining whether said message signature satisfies said set of criteria.

28. (Previously Presented) The computer-readable medium of Claim 26 wherein determining that a threshold number of said plurality of electronic mail messages have a particular content includes determining that at least a portion of each of said plurality of electronic mail messages have said particular content.

29. (Currently Amended) A computer-readable medium carrying one or more sequences of one or more instructions for managing electronic mail, wherein the execution of the one or more sequences of the one or more instructions causes the one or more processors to perform the steps of:

a central server receiving from an electronic mail server a message signature generated from an electronic mail message;

computer?
received by the electronic mail server
who receiving this / originate?

^{the}
 an electronic mail server determining whether said message signature satisfies a set of
 criteria based on message signatures previously received by said central server
 from a set of electronic mail servers; and
 wherein said set of criteria classifies said electronic mail message and a threshold number
 of electronic mail messages as having a particular content;
 if said received ~~data~~ ^{said} message signature satisfies a set of criteria, then said electronic mail
 server processing said electronic mail message as a bulk electronic mail message;
 and
 wherein the step of said electronic mail server determining whether said message
 signature satisfies a set of criteria includes determining whether a portion of said
 message signature matches a portion of each of a threshold number of message
 signatures previously received by said central server from said set of electronic
 mail servers.

30. (Canceled)

31. (Original) A computer-readable medium carrying one or more sequences of one or more
 instructions for managing electronic mail, wherein the execution of the one or more
 sequences of the one or more instructions causes the one or more processors to perform
 the steps of:
 a central server receiving from a set of electronic mail servers message signatures
 generated from electronic mail messages received by said set of electronic mail
 servers, wherein each message signature includes one or more message signature
 elements;

said central server generating counts of how many times said one or more message
signature elements are matched by message signature elements from message
signatures generated for other electronic mail messages; and
said central server transmitting a message reflecting said counts.

✓ 32 – 37 (Canceled)

38. (New) The computer-readable medium of Claim 26 wherein the step of generating a set
of criteria based on contents of a plurality of electronic mail messages received over said
network includes tracking how many message signature elements of said plurality of
electronic mail messages match.

39. (New) The computer-readable medium of Claim 26 wherein the step of generating a set
of criteria based on contents of a plurality of electronic mail messages received over said
network includes the steps of:
generating message signatures for each electronic mail message of said plurality of
electronic mail messages, wherein each message signature includes one or more
message signature elements; and
counting how many of said one or more message signature elements match message
signature elements from other message signatures.

40. (New) The computer-readable medium of Claim 39 wherein the step of determining
whether said electronic mail message satisfies said set of criteria includes determining
whether a message signature generated for said electronic mail message includes at least

one message signature element that matches a threshold number of message signature elements of previously generated message signatures.

41. (New) The computer-readable medium of Claim 40 wherein the step of determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements further includes determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements of previously generated message signatures that are associated with a period of time.

42. (New) The computer-readable medium of Claim 26 wherein the step of processing said electronic mail message as a first type of electronic mail includes adding a bulk electronic mail flag to said electronic mail message.

43. (New) The computer-readable medium of Claim 42, the steps further including after processing said electronic mail message as a first type of electronic mail, transmitting said electronic mail message to an electronic mail server; said electronic mail server receiving said electronic mail message; said electronic mail server determining whether said electronic mail message contains said bulk electronic mail flag; and if said electronic mail message contains said bulk electronic mail flag, then processing said electronic mail message without further verifying whether said electronic mail message is bulk electronic mail.

1 44. (New) The computer-readable medium of Claim 29, wherein:

2 the step of a central server receiving from an electronic mail server a message signature

3 includes receiving a set of one or more values generated by a one-way hash

4 function; and

5 the step of said electronic mail server determining whether a portion of said message

6 signature matches includes determining whether at least one of said set of one or

7 more values matches a threshold number of previously received values generated

8 by a one-way hash function.

1 45. (New) The computer-readable medium of Claim 44, the steps further including the step

2 of transmitting one or more messages to said electronic mail server specifying changes to

3 one or more routines invoked by said electronic mail server to generate message

4 signatures.

1 46. (New) The computer-readable medium of Claim 45, wherein the step of transmitting one

2 or more messages includes transmitting platform-independent byte code.

1 47. (New) The computer-readable medium of Claim 31, wherein:

2 the step of a central server receiving includes receiving a particular recipient signature

3 associated with a particular message signature; and

4 the step of generating counts includes generating counts of how many times said one or

5 more message signature elements match message signature elements that are:

6 generated for other electronic mail messages, and

7 associated with a recipient signature that differs from said particular recipient
8 signature.

1 48. (New) The computer-readable medium of Claim 47, wherein the step of transmitting
2 messages reflecting said counts includes transmitting said counts.

1 49. (New) The computer-readable medium of Claim 47, wherein the step of transmitting
2 messages reflecting said counts includes transmitting message signature elements
3 associated with counts greater than a threshold.

1 50. (New) A method of managing electronic mail, the method comprising the steps of:
2 automatically generating a set of criteria based on contents of a plurality of electronic
3 mail messages received over a network;
4 wherein the step of automatically generating a set of criteria includes, in response to
5 determining that a threshold number of said plurality of electronic mail messages
6 have a particular content, generating criteria that classifies electronic mail
7 messages that have said particular content as a first type of electronic mail;
8 receiving an electronic mail message over said network;
9 determining whether said electronic mail message satisfies said set of criteria;
10 if said electronic mail message satisfies said set of criteria, then processing said electronic
11 mail message as said first type of electronic mail;
12 if said electronic mail message does not satisfy said set of criteria, then processing said
13 electronic mail message as a second type of electronic mail;

14 wherein said first type of electronic mail is processed differently than said second type of
 15 electronic mail; and
 16 wherein the step of generating a set of criteria based on contents of a plurality of
 17 electronic mail messages received over said network includes the steps of:
 18 generating message signatures for each electronic mail message of said plurality
 19 of electronic mail messages, wherein each message signature includes one
 20 or more signature elements; and
 21 counting how many of said one or more signature elements match signature
 22 elements from other message signatures.

1 51. (New) The method of Claim 50 wherein the step of determining whether said electronic
 2 mail message satisfies said set of criteria includes determining whether a message
 3 signature generated for said electronic mail message includes at least one signature
 4 element that matches a threshold number of signature elements of previously generated
 5 message signatures.

1 52. (New) The method of Claim 51 wherein the step of determining whether a message
 2 signature generated for said electronic mail message includes at least one signature
 3 element that matches a threshold number of signature elements further includes
 4 determining whether a message signature generated for said electronic mail message
 5 includes at least one signature element that matches a threshold number of signature
 6 elements of previously generated message signatures that are associated with a period of
 7 time.

53. (New) A computer-readable medium carrying one or more sequences of one or more instructions for managing electronic mail, wherein the execution of the one or more sequences of the one or more instructions causes the one or more processors to perform the steps of:

automatically generating a set of criteria based on contents of a plurality of electronic mail messages received over a network;

wherein the step of automatically generating a set of criteria includes, in response to determining that a threshold number of said plurality of electronic mail messages have a particular content, generating criteria that classifies electronic mail messages that have said particular content as a first type of electronic mail;

receiving an electronic mail message over said network;

determining whether said electronic mail message satisfies said set of criteria;

if said electronic mail message satisfies said set of criteria, then processing said electronic mail message as said first type of electronic mail;

if said electronic mail message does not satisfy said set of criteria, then processing said electronic mail message as a second type of electronic mail;

wherein said first type of electronic mail is processed differently than said second type of electronic mail; and

wherein the step of generating a set of criteria based on contents of a plurality of electronic mail messages received over said network includes the steps of:

generating message signatures for each electronic mail message of said plurality of electronic mail messages, wherein each message signature includes one or more signature elements; and

24 counting how many of said one or more signature elements match signature
25 elements from other message signatures.

1 54. (New) The computer-readable medium of Claim 53 wherein the step of determining
2 whether said electronic mail message satisfies said set of criteria includes determining
3 whether a message signature generated for said electronic mail message includes at least
4 one signature element that matches a threshold number of signature elements of
5 previously generated message signatures.

1 55. (New) The computer-readable medium of Claim 54 wherein the step of determining
2 whether a message signature generated for said electronic mail message includes at least
3 one signature element that matches a threshold number of signature elements further
4 includes determining whether a message signature generated for said electronic mail
5 message includes at least one signature element that matches a threshold number of
6 signature elements of previously generated message signatures that are associated with a
7 period of time.
